# DEQ Response to Public and Agency Comments

Regarding

**Guidance for Developing a Ground Water Quality Monitoring Program for Managed Recharge Projects by Land Application**


Idaho Department of Environmental Quality

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**Note:** References to IDAPA 58.01.02 in this document have been superseded by IDAPA 58.01.16, Wastewater Rules, which became effective as of the adjournment of the 2006 Legislature.

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| **Comment 1.** | October 8, 2004<br>Idaho Mining Association<br>Request for **45 day extension** – significant concern to the state's mining industry |
| **Response 1.** | Response: The public comment period was extended to November 30, 2004. |
| **Comment 2.** | October 11, 2004<br>Idaho Ground Water Appropriators via Lynn Tominaga<br>Request for **45 day extension** – fall harvest – potential impact on negotiations with Interim Legislative Natural Resource Committee for settlement on the ESPA |
| **Response 2.** | Response: The public comment period was extended to November 30, 2004. |
| **Comment 3.** | October 11, 2004<br>Gustaf R. Sarkkinen,<br>Board Member Palouse Water Conservation Network<br>Gustaf125@hotmail.com<br>Opposes introducing any effluent (treated or otherwise) into an aquifer. The amount of water available for pumping is limited to the amount of natural recharge, and a recharge project will not increase the amount for water available for pumping |
| **Response 3.** | If the water used for recharge is treated wastewater, then the project is subject to IDAPA 58.01.17, Land Application Permit Rules. |
| **Comment 4.** | October 12, 2004<br>Idaho Association of Commerce and Industry<br>Richard R. Rush<br>Request for **45 day extension** – members need time to review significant and far-reaching actions by DEQ. Interim Legislative Natural Resource Committee is already addressing aquifer recharge - Unaware of any legislative request for DEQ to develop guidelines |
| **Response 4.** | The public comment period was extended to November 30, 2004. |

**Comment 5.**

October 13, 2004
Bryan Donaldson
BDD@JUB.com
Recharge projects must be subject to the same regulations and guidelines that limit land application of any wastewater. Require pilot column tests to demonstrate contaminants will not leach from soils and degrade aquifer water quality.

**Response 5.**

If the water used for recharge is treated wastewater, then the project is subject to IDAPA 58.01.17, *Rules for the Reclamation and Reuse of Municipal and Industrial Wastewater*.

In *Water Quality Standards and Wastewater Treatment Requirements*, IDAPA 58.01.02.[58.01.16], Section 600.05.b, it is stated that "The entity proposing the project must provide reasonable assurance that the soils and site geology will provide the required level of treatment and will not allow movement of pollutants into the underlying ground water."

The Guidance is intended to provide an entity (or its consultant) with description and clarification of the information necessary for DEQ, within its authority under the existing rule, to determine if the program offers sufficient protection of ground water quality for the site-specific conditions.

http://www.deq.state.id.us/rules/admin_rules.cfm#links

**Comment 6.**

October 14, 2004
Sarah Koerber
804 Apple Lane
Moscow, ID 83843

- Emerging contaminants (pharmaceuticals, industrial/household wastewater products, reproductive & steroidal hormones) are not addressed. Although analytical methods are still being developed, DEQ should be proactive by acknowledging possible toxicological implications of emerging contaminants.
- Section 4.2.2.02: Allowing limited degradation under certain circumstances is contrary to preventing ground water contamination as a state mandate.
- Section 5,3: Public notification should include all residents within a two-year time of travel.
- Section 6.2.1.a: If soil is to be imported, DEQ should require notification and characterization as it is possible the material is fill rather than native soil and may contain agricultural chemicals.

- Section 6.4.2: Monitoring locations should include domestic and municipal wells within the two-year time of travel.

**Response 6.** Response: The Idaho Department of Water Resources (IDWR) manages the Idaho Statewide Ambient Ground Water Quality Program, which statistically characterizes Idaho's ground water quality. The program has initiated sampling for emerging contaminants as analytical methods are developed, and is one source of data to provide ambient or baseline ground water quality as discussed in Section 6.4.2 of the Guidance. DEQ may request sampling for additional constituents.

Public notification has been revised to include all potentially impacted property owners within the potential zone of influence. The zone of influence, protective of human health is considered to include a one-year time of travel distance. The one-year time of travel distance is based on very conservative estimated pathogen survival rates and is calculated using site specific dilution parameters that include hydraulic conductivity, hydraulic gradient, and aquifer porosity.

Identification of potential contaminants is described in Section 6.2.3.a. of the Guidance. Locations for monitoring sites will be based on site-specific conditions as described in Section 6.4.3.

In Section 6.2.1 of the Guidance, the use of imported soils may be subject to additional consultation with DEQ

The Guidance is intended to provide an entity (or its consultant) with description and clarification of the information necessary for DEQ, within its authority under the existing rule, to determine if the program offers sufficient protection of ground water quality for the site-specific conditions.

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**Comment 7.** October 15, 2004
David Hall
1334 Wallen Rd.
Moscow, ID 83843

- Text is wordy and seems repetitive, *insure* used where *ensure* is more appropriate, difference in treatment of singular/plural forms of wastewater(s) for land application and recharge, misuse of semicolon.
- 4.2: Spokane Valley-Rathdrum Prairie is the only aquifer classified as sensitive, this may change
- 4.2.1.01.b and 4.2.2.02.b: There should be provision for adopting new emerging constituents as science advances.
- 4.2.2.02.a.iv: Numerical standards can be more stringent –

- 5,3: Under public notification, instead of DEQ *shall*, it should be DEQ *will* notify affected public; the risk and zone of influence can be extensive.
- Concern for pharmacological residues entering ground water supplies via recharge monitoring for such should be included before and after recharge.
- 6.2.1.a: Recommendation for project manager to notify DEQ if soils are imported not strong enough—notification should be required. The imported soil may actually be fill or contaminated.

**Response 7.** If more stringent ground water quality standards are developed for sensitive resource aquifers, then those standards will be applicable to activities impacting sensitive resource aquifers.

IDWR manages the Idaho Statewide Ambient Ground Water Quality Program, which statistically characterizes Idaho's ground water quality. The program has initiated sampling for emerging contaminants as analytical methods are being developed. Providing ambient or baseline ground water quality is discussed in Section 6.4.2 of the Guidance. DEQ may request sampling for additional constituents.

Public notification has been revised to include all include potentially impacted property owners.

The ground water quality standards are based on the Idaho *Ground Water Quality Rule*, IDAPA 58.01.11.

Public notification may extend to include all potentially impacted property owners within the potential zone of influence. The zone of influence, protective of human health is considered to include a one-year time of travel distance. The one-year time of travel distance is based on very conservative estimated pathogen survival rates and is calculated using site specific dilution parameters that include hydraulic conductivity, hydraulic gradient, and aquifer porosity

In Section 6.2.1 of the Guidance, the use of imported soils may be subject to additional consultation with DEQ.

The Guidance is intended to provide an entity (or its consultant) with description and clarification of the information necessary for DEQ, within its authority under existing rule, to determine if the program offers sufficient protection of ground water quality for the site-specific conditions.

http://www.deq.state.id.us/rules/admin_rules.cfm#links

**Comment 8.** October 15, 2004
Alan Prouty
J.R. Simplot Co.
Request for **45 day extension** of comment period.

**Response 8.** The public comment period was extended to November 30, 2004..

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**Comment 9.** October 20, 2004
Dorian Duffin and Susie Vader
7840 Apache Way
Boise, ID 83714

- Request more time for commenting
- 5.3: Under public notification, instead of DEQ *may*, it should be DEQ *will* provide public notice
- 5.3: Notice should be provided to **ALL** property owners within the zone of influence instead of only private property owners.
- Define the potential zone of influence by geographical/chronological boundaries to protect DEQ and the public. We suggest the zone of influence be defined as land affected the 2-year time of travel.
- Reword requirement to notify *adjacent* landowners within 300 feet of the property line—all adjacent landowners are within 300 feet of the property line. Notify all landowners within the two-year time of travel.
- 4.2.2 (iii) and (iv): Concerned about "limited degradation of ground water quality" in the rule regardless of BMP's or economic or social situations.
- The ground water monitoring program is well organized and thought out.

**Response 9.** Public notification has been revised to include all potentially impacted property owners within the potential zone of influence. The zone of influence, protective of human health is considered to include a one-year time of travel distance. The area is considered to include a one-year time of travel distance and should include the nearest receptor. The one-year time of travel distance is based on very conservative estimated pathogen survival rates and is calculated using site-specific dilution parameters that include hydraulic conductivity, hydraulic gradient, and aquifer porosity. Characterization of the recharge area is discussed in Sections 6.2 and 6.2.2.b of the Guidance.

The Guidance is intended to provide an entity (or its consultant) with description and clarification of the information necessary for DEQ, within its authority under the existing rule, to determine if the program

offers sufficient protection of ground water quality for the site-specific conditions.

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**Comment 10.** November 3, 2004
Lew Pence, Chairman
Middle Snake Regional Water Resource Commission
122 5th Ave. West
Gooding, ID 83330

- Guidelines expansive and not applicable to each region in the state. Implementation likely to be expensive. Suggest each region develop guidance specific to location. The Commission's Water Resource Management Plan has been adopted by 6 counties, is simplistic compared to DEQ guidance, but it allows flexibility to interpret requirements.
- Window of opportunity for availability of recharge water canbe short; DEQ plan is not clear on possibility of advance approval.
- The guidelines would increase the cost of recharge, making it infeasible. Instead, DEQ should look for ways to offer expertise.
- Unlikely that the recharge water will have the constituents in Section 6.4.6. Seems to be overkill for region.

**Response 10.** The guidance is intended to be applicable to the entire state, with an emphasis on site-specific conditions. Entities have expressed interest in recharge by land application in other areas in the state, beyond the six counties. Section 5.4 of the Guidance describes the approval time frame. The two examples of ground water quality monitoring programs for recharge projects in the revised guidance have been prepared in advance of a recharge project. Section 6.4 of the Guidance, which describes constituents and monitoring frequency, has been revised to incorporate site-specific conditions and existing water quality.

The large volume of water in the aquifer may dilute potential contaminants from recharge occurring from canals and laterals.

The Guidance is intended to provide an entity (or its consultant) with description and clarification of the information necessary for DEQ, within its authority under the existing rule, to determine if the program

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**Comment 11.** November 18, 2004
Richard R. Rush
Idaho Association of Commerce and Industry
PO Box 389
Boise, ID 83701

- Broader perspective needed. Guidelines as written dissuade recharge projects.

- New guidelines should be developed by multi-agency, multi-party workgroup charged to encourage recharge.
- Guidance should be renamed "assistance documents" and should provide assistance to potentially regulated parties, including ideas for making projects a success. .
- Draft guidelines are akin to a rule and appear to be intended for internal DEQ audience, creating an additional permitting process with contested case hearings.
- Facilities already subject to permitting should be exempt as should innocuous activities of longstanding, including irrigation canals, ancillary re-regulation ponds and similar structures. Should consider a de minimus value, and types of projects should be identified.
- Guidelines should identify the types of projects that fall under the guidelines. Small projects should have less oversight. The source of the recharge water is not considered.
- Definitions include terminology not consistent with existing rules as well as new terms without definition.
- A monitoring plan should consider the nature of recharge water, the physical setting, and the intended time and place when the recharged water is expected to be reused.
- BMPs similar to permitting of stormwater basins should be developed for recharge water.
- A recharge project is not the same as application of wastewater. Need to look at alternative monitoring programs more appropriate for recharge.
- **"The liabilities that can arise from ground water monitoring increases the uneasiness generated by the guidelines."**

**Response 11.** The revised Guidance includes examples of monitoring programs for recharge projects. The programs were developed by technical staff from both DEQ and IWDR. In *Water Quality Standards and Wastewater Treatment Requirements*, IDAPA 58.01.02 [58.01.16], Section 600.05.b it is stated that "the entity proposing the project must provide reasonable assurance that the soils and site geology will provide the required level of treatment and will not allow movement of pollutants into the underlying ground water."

In Section 600.04 of the same rule (IDAPA 58.01.02 [58.01.16]), a ground water quality monitoring program is subject to DEQ approval. The Guidance is intended to provide an entity (or its consultant) with description and clarification of the information necessary for DEQ, within its authority under existing rule, to determine if the program offers sufficient protection of ground water quality for the site-specific conditions.

Section 1.0 of the Guidance has been revised to describe activities and events that are not considered to be a recharge project. Recharge water quality is now discussed further in Sections 6.4.1 and 6.4.4. Section 6.4.7, which describes constituents and monitoring frequency, has been revised to incorporate site-specific conditions and existing water quality. If the water used for recharge is treated wastewater, then the project is subject to IDAPA 58.01.17, to Rules for the Reclamation and Reuse of Municipal and Industrial Wastewater.

The Guidance is intended to provide an entity (or its consultant) with description and clarification of the information necessary for DEQ, within its authority under the existing rule, to determine if the program

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**Comment 12.** November 18, 2004
Bill Jones
Box 265
Hagerman, ID 83332
Water to be used for recharge (canal water) is very high quality and has been recharging since 1912. Don't make a mountain of a molehill.

**Response 12.** The recharge water quality is now discussed further in Sections 6.4.1 and 6.4.4. Section 6.4.7, which describes constituents and monitoring frequency, has been revised to incorporate site-specific conditions and existing water quality. If the water used for recharge is treated wastewater, then the project is subject to IDAPA 58.01.17, *Rules for the Reclamation and Reuse of Municipal and Industrial Wastewater*. Canal water may not meet water quality standards due to microbial contaminants such as bacteria and protozoa including Giardia and cryptosporidium. In 2005, DEQ and IDWR collected samples of canal water at several sites and total coliform bacteria concentrations were over 1,000 colonies per 100 milliliter. The numerical standard in the Idaho *Ground Water Quality Rule* for Total Coliform is 1 colony forming unit per 100 milliliter.

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The large volume of water in the aquifer may dilute potential contaminants from recharge occurring from canals and laterals

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**Comment 13.** November 24, 2004, Additional Comment
Lew Pence, Chairman
Middle Snake Regional Water Resource Commission
122 5th Avenue West
Gooding, ID 83330

- Incidental recharge appears to be included in the guidelines; need to make it clear that incidental recharge is not included.

- Canal leakage substantially recharges the aquifer every year without impacting quality water. Recharge would decline if canal systems forced to line systems to comply with guidance..

**Response 13.** Section 1.0 of the Guidance has been revised to exclude incidental leakage and canal systems as managed recharge projects. The large volume of water in the aquifer may dilute potential contaminants from recharge occurring from canals and laterals.

Canal water may not meet water quality standards due to microbial contaminants such as bacteria and protozoa including Giardia and cryptosporidium. In 2005, DEQ and IDWR collected samples of canal water at several sites and total coliform bacteria concentrations were over 1,000 colonies per 100 milliliter. The numerical standard in the Idaho *Ground Water Quality Rule* for Total Coliform is 1 colony forming unit per 100 milliliter.

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**Comment 14.** November 30, 2004
Richard (Dick) Rogers
1066 Saratoga
Boise, ID 83706

- Guidance needs to address design and construction of monitoring wells.
- Document too long; just reference the authorities.
- Purpose is not clear. What are the expected benefits of the recharge project?
- Public water supply rules should be an authority.
- Public notice not adequate: should include all property owners who live within or withdraw ground water within the 2-year time of travel.
- Opportunity for appeal should be deleted or moved to appendix.
- Use “shall” instead of “should” for reporting requirement.
- Annual project review refers to projects from IDWR; are they the only entity involved?
- Identify public supply wells and source water delineation.
- Address public water systems & source water assessment areas in statement of purpose for each recharge project.
- Define adequate soil cover and relate to the soil type for removing pollutants; suggests a range of 3-10 feet.
- 6.2.2: Include all 3, 6, and 10 year maps from source water assessments, if applicable.
- Existing wells are not acceptable for monitoring. The casing is subject to corrosion (source of pollutants), pumps are not at the

correct depth to monitor first water, the well may go through multiple aquifers and possibly cause cross-contamination, they are not constructed for ground water monitoring, may cause turbidity and suspended matter that may misinterpret identifying sources, and the samples should not be filtered – public water system samples are not filtered.

- Proposed land application rule changes have 1-year time of travel; should be consistent between programs. Supports 2-year travel time.
- Locate upgradient monitoring wells based on modeling and on the up-stream edge of the expected ground water plume,
- Recharge site needs to be clean native material, free of contamination
- Vegetation within the basin may die
- Pesticide and herbicide use or storage should not be allowed, nor animals within the recharge area
- Define high filtration potential
- If the recharge creates a perched aquifer or enhances an existing perched aquifer, what is point of compliance for monitoring?
- Monitoring wells should be located by an Idaho licensed registered professional engineer, geologist, environmental health or other competent professionals
- Who is the project manager? Define
- Guidance needs to clearly state that water sampled for compliance is the first water encountered, including perched water
- Only laboratories certified to do drinking water analysis and approved methods should be used
- Total Organic Carbon needs acceptable level, suggests 5 ppm, it is a food source for bacteria, may interfere with disinfection, can be source of odor and taste.
- Pesticide analysis should be in accordance with rules for public water supplies, not a scan
- Reference for standard methods should be 1999. ASTM is accepted now as “Standard Methods”
- None of the examples in the contingency plan should be allowed
- Recharge water treatment design must be done by licensed Idaho PE
- Use current drinking water standard for arsenic
- Use surface water treatment rules for protozoa level
- Definition of recharge water is vague

**Response 14.** The Guidance is to provide an entity (or its consultant) with description and clarification of the information necessary for DEQ, within its authority under existing rule, to determine if the program offers sufficient protection of ground water quality for the site specific conditions.

Section 6.1 in the Guidance requests a description with the project purpose and expectations. Public notification has been revised to all include potentially impacted property owners within the zone of potential influence. The zone of influence, protective of human health is considered to include a one-year time of travel distance based on estimated pathogen survival rates.

In *Water Quality Standards and Wastewater Treatment Requirements*, IDAPA 58.01.02 [58.01.16], Section 600.05.b states that "the entity proposing the project must provide reasonable assurance that the soils and site geology will provide the required level of treatment and will not allow movement of pollutants into the underlying ground water."

Section 6.2.2 of the Guidance provides guidelines for aquifer characterization. An inventory of existing wells is described in Section 6.2.2.b of the Guidance and the IDWR reference would include public water system wells. Existing wells are sampled by the USGS (U. S. Geological Survey), IDWR, ISDA (Idaho State Department of Agriculture) and DEQ ground water quality programs. Protocols include purging the well prior to obtaining the sample, which is determined when field parameters stabilize, as suggested in Section 6.4.6 of the Guidance...

Section 6.4.3 of the Guidance discusses criteria to be used for selecting wells to sample including well construction. The Section also states that, if the existing wells and springs do not provide the information necessary to evaluate ground water quality, then monitoring wells will need to be installed. Monitoring wells, like any other wells, are subject to permit and construction conditions administered by IDWR. Sites selected for monitoring will be reviewed by DEQ professional technical staff.

Travel time based on pathogen survival has been changed to one year.

Section 6.2.3 in the Guidance describes identification of potential contaminants, land use and vegetation.

Contingency planning is discussed in Section 6.5.2 of the Guidance

Section 6.4.1 in the Guidance requests an evaluation of potential changes to water levels caused by the introduction of recharge water by land application.

The term *project manager* has been changed to be the *responsible party*.

In Section 6.4.7 of the Guidance, the responsible party is encouraged to consult ASTM Standard Methods for appropriate analytical methods. The use of EPA certified analytical laboratories is suggested.

Pesticide scans using immunoassay techniques often provide detection limits lower than EPA approved drinking water methods. The scans may not identify the individual pesticide, however if an organic is detected from a scan, then additional sampling for laboratory analysis maybe requested.

Ground water quality standards are defined in the Idaho *Ground Water Quality Rule*, IDAPA 58.01.11.

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**Comment 15.** November 22, 2004
Paul Borchard, Chairman
LSRARD
PO Box 487
Hagerman, ID 83332
Understanding the guidance document that went out for public comment September 14, 2004 will be scrapped and replaced with an entirely new draft. Request a copy of an amended draft and reserve the right to comment under the 9/14/04 cover letter.

**Response 15.** The guidance has been revised, based on public comments received, to include examples of monitoring plans programs for recharge projects that have the information necessary for DEQ approval. The monitoring plans programs have been cooperatively developed by IDWR and DEQ technical staff. Public comments will be taken regarding the revised 2005 Guidance.

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**Comment 16.** November 22, 2004
Mark E. Daily
Idaho Aquaculture Association
PO Box 767
Hagerman, ID 83332

- Agree with IACI comments.
- Concerned that the guidelines are masquerading as potential rules/regulations and discourage recharge projects.
- 33% of the water in the canal systems has been recharging the aquifer since 1912 without negative effects. Projects using such canal water should not be required to have extensive (monthly) monitoring.

**Response 16.** Per *Water Quality Standards and Wastewater Treatment Requirements*, IDAPA 58.01.02 [58.01.16], Section 600.04, a ground

water quality monitoring program is subject to DEQ approval. The Guidance is intended to provide an entity (or its consultant) with description and clarification of the information necessary for DEQ, within its authority under existing rule, to determine if the program offers sufficient protection of ground water quality for the site specific conditions.

Section 1.0 of the Guidance has been revised to exclude incidental leakage and canal systems as managed recharge projects.

The large volume of water in the aquifer may dilute potential contaminants from recharge occurring from canals and laterals.

Canal water may not meet water quality standards due to microbial contaminants, such as bacteria and protozoa, including Giardia and cryptosporidium. In 2005, DEQ and IDWR collected samples of canal water at several sites and total coliform bacteria concentrations were over 1,000 colonies per 100 milliliter. The numerical standard in the Idaho *Ground Water Quality Rule* for Total Coliform is 1 colony forming unit per 100 milliliter.

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**Comment 17.** November 29, 2004
Norman M. Semanko, Executive Director
Idaho Water Users Association, Inc.
205 N. 10th St., Suite 530
Boise, Idaho 83702

- Any necessary regulation of recharge is the sole responsibility of IDWR and IDWR is more than capable of addressing legitimate water quality concerns. IDWR has proven its ability to address water quality issues for both stream channel protection and well construction standards. DEQ is not named in any recharge statutes as far back as 1978. The guidance will hinder recharge efforts and will frustrate the will of the legislature.
- Revise terminology in some of the definitions, statement of authority, evaluation of potential impacts, and contingency plan.

**Response 17.** Per *Water Quality Standards and Wastewater Treatment Requirements*, IDAPA 58.01.02 [58.01.16], Section 600.04, a ground water quality monitoring program is subject to DEQ approval. The Guidance is intended to provide an entity (or its consultant) with description and clarification of the information necessary for DEQ, within its authority under existing rule, to determine if the program offers sufficient protection of ground water quality for the site specific conditions.

IDWR has authority for recharge projects by injection wells, however, all agencies are to operate their programs in accordance with the

*Ground Water Quality Rule*, (IDAPA 58.01.11), as defined in the *Idaho Ground Water Quality Plan and Ground Water Quality Protection Act*. Several definitions in the Guidance were revised, including what is not considered to be a recharge project by land application.

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**Comment 18.** November 29, 2004
Linda Lemmon, Executive Secretary
Thousand Springs Water Users Association, Inc.
PO Box 178
Hagerman, ID 83332

- Document reads more like a rule than a guideline and the association agrees with IACI's comments.
- Definition of recharge needs to be revised. Identify that normal irrigation and canal operations as being exempt from monitoring.
- The guidance does not consider the source of recharge water. Drinking is not always what ground water is used for, and expecting recharge water to meet drinking water standards is unreasonable.
- The guidance does not consider the volume of water or the timing of delivery, which may be available for only certain times under certain conditions of quantity. Some situations should not be required to monitor; 30% of the water in the canal system already leaks into the aquifer.
- A revised document should be available for additional public comment period.

**Response 18.** Per *Water Quality Standards and Wastewater Treatment Requirements*, IDAPA 58.01.02 [58.01.16], Section 600.04, a ground water quality monitoring program is subject to DEQ approval. The Guidance is intended to provide an entity (or its consultant) with description and clarification of the information necessary for DEQ, within its authority under existing rule, to determine if the program offers sufficient protection of ground water quality for the site specific conditions.

Section 1.0 of the Guidance has been revised to exclude incidental leakage and canal systems as managed recharge projects.

The recharge water quality is now discussed further in Sections 6.4.1 and 6.4.4. Section 6.4.7 of the Guidance that describes constituents and monitoring frequency, has been revised to incorporate site specific conditions and existing water quality.

Canal water may not meet water quality standards due to microbial contaminants such as bacteria and protozoa including Giardia and cryptosporidium. In 2005, DEQ and IDWR collected samples of canal water at several sites and total coliform bacteria concentrations were over 1,000 colonies per 100 milliliter. The numerical standard in the Idaho *Ground Water Quality Rule* for Total Coliform is 1 colony forming unit per 100 milliliter.

The large volume of water in the aquifer may dilute potential contaminants from recharge occurring from canals and laterals

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**Comment 19.** November 30, 2004
Alan L. Prouty
Director, Environmental and Regulatory Affairs
J.R. Simplot Company
PO Box 27
Boise, ID 83702

- Guidance needs to be re-worked in a public process involving IDWR and stakeholders, and that process should (a) determine what guidance is needed or if rulemaking is more appropriate, and (b) develop the guidance/rule.
- Authority and scope need to be refined, definition made more consistent, and identification of exempt activities clarified.
- Requirements for monitoring are too extensive and so is the number of constituents, and type of constituents.
- No rationale for alert levels.
- Requirements should be in a rule, not a guideline.

**Response 19.** Per *Water Quality Standards and Wastewater Treatment Requirements*, IDAPA 58.01.02 [58.01.16], Section 600.04, a ground water quality monitoring program is subject to DEQ approval. The Guidance is intended to provide an entity (or its consultant) with description and clarification of the information necessary for DEQ, within its authority under existing rule, to determine if the program offers sufficient protection of ground water quality for the site-specific conditions.

Section 6.4.7, of the Guidance describes constituents and monitoring frequency, has been revised to incorporate site-specific conditions and existing water quality. Alert levels were adopted from recharge programs in other western states and are designed to protect beneficial uses of ground water.

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**Comment 20.** November 30, 2004
Don W. Munkers, CEO
Idaho Rural Water Association
dmunkers@idahoruralwater.com

- Recharge must not cause degradation of the aquifer(s). Guidelines must provide parameters to prevent any experimentation with the potential to contaminate ground water.
- The potential for a rule, which is stricter than guidance that can be loosely interpreted, may need to be investigated.
- No recharge project existing or planned should be exempt from guidance or rules based on quantity.
- Is the State ready to assume responsibility and liability without proper authority to address specific issues associated with recharge? If different agencies are responsible for quantity and quality, how will the guidance be administered? Who is responsible for different forms of recharge as contained in the Safe Drinking Water Act?
- Monitoring is necessary, and parties should be reminded that not every constituent needs to be analyzed in all situations. Without monitoring, liability increases and the information are critical to down gradient water users.
- Who receives the water right for water diverted, and how is the endangered species act addressed?

**Response 20.** Per IDAPA 58.01.02 [58.01.16].600.04 *Water Quality Standards and Wastewater Treatment Requirements,* a ground water quality monitoring program is subject to DEQ approval. The guidance is to provide an entity (or its consultant) with description and clarification of the information necessary for DEQ, within its authority under the existing rule, to determine if the program offers sufficient protection of ground water quality for the site-specific conditions. Water right issues are to be addressed by IDWR.

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**Comment 21.** November 30, 2004
Catherine Chertudi
Ground Water and Solid Waste Programs Manager
City of Boise
PO Box 500
Boise, ID 83701-0500

- Add definitions and clearly state the type of project or system the guidelines are applicable to.
- Recharge projects should be implemented in conjunction with water conservation programs.

- The document is too lengthy and should be written for a 7th grade level understanding.
- The information in pages 2-10 appears to have more to do with project approval than with ground water monitoring approval.
- Statement of Authority: Need definition of qualified party.
- Page 1: Needs clear well defined purpose.
- Page 2: Public Water Supply rules should be used as authority – with respect to use of pesticides and herbicides and animals.
- Page 2: Public notice shall be provided to all adjacent property owners within a 2-year time of travel and public water suppliers within a 3-year time of travel.
- Page 6: Any appeal process should be in a regulation not guidance.
- Page 6: Reporting, replace "should" with "shall" in the first sentence.
- Page 6: Clarify IDWR involvement; appears they are the only entity.
- Page 7: In contents of ground water monitoring program locate all public water systems in the area with associated delineation.
- Page 7: Identify purpose of the project. Confusing in regard to source and type of water used for recharge.
- Page 7: If the project does not benefit public supply wells then it should not be located within any defined areas of a source water assessment.
- Page 8: Define adequate soil cover.
- Page 8: Section 6.2.2, include all 3, 6, 10 year maps from source water assessments, if applicable.
- Page 8: Existing wells should not be used for monitoring (see Dick Rogers comments) – should not be in recharge area water following casing to ground water, casing is subject to corrosion, pump not set at correct depth to sample the first ground water, may penetrate multiple aquifers and lead to cross-contamination. Public supply water samples are not filtered, so neither should recharge monitoring samples.
- Page 9: 2-year time of travel in conflict with 1-year time of travel in proposed land application rules by Mark Mason. Distance of upgradient monitoring wells should be determined by qualified professional.
- Page 9: 6.2.2.d. If supplementing stream flows, compliance with TMDL necessary.

- Page 10: 6.2.3.b Recharge basis should not include land previously used for activities described. Recharge site must be clean native material free of contamination
- Page 10: 6.2.3.c. Vegetative cover may conflict with recharge.
- Page 10: 6.3. There should be no pesticides, herbicides, or animals in recharge area.
- Page 10: 6.4. Define high filtration potential.
- Page 11: If recharge creates or enhances an existing perched water table, is the perched water a point of compliance for monitoring? What if recharge is only conducted during the winter? Guidelines do not provide direction on what to monitor for and at what depth.
- Page 12: Monitoring locations should be determined by an Idaho registered Professional Engineer, Geologist, Environmental Health professional, or other licensed competent professional.
- Define project manager—used several times throughout document.
- Page 11: Make it clear that the first ground water encountered, including perched water, is where the samples are to be collected from.
- Page 12: Make it clear to use only certified laboratories using methods approved for drinking water.
- Page 13: Total organic carbon needs acceptable level, is a food source for bacteria affecting taste and odor, and may interfere with disinfection.
- Page 13: Analytical methods for pesticides should be the methods approved for drinking water.
- Page 13 (and 21): Reference standard methods as 1998, use "Standard Methods" instead of ASTM
- Page 13: Reporting analytical results in 10 days is unnecessary; the 24 hour notification and annual report will be sufficient.
- Page 14: Require specific analysis for pesticides, not a scan
- Page 14: Treatment of recharge water should be designed by an Idaho PE and reviewed by DEQ engineers should be included

**Response 21.** Section 1.0 of the Guidance has been revised for clarification of activities not considered as recharge. Several definitions were revised. The Guidance is to provide an entity (or its consultant) with description and clarification of the information necessary for DEQ, within its authority under existing rule, to determine if the program offers sufficient protection of ground water quality for the site-specific conditions.

Section 6.1 of the Guidance requests a description with the project purpose and expectations.

Public notification may extend to include all potentially impacted property owners within the potential zone of influence. The zone of influence, protective of human health is considered to include a one-year time of travel distance. The one-year time of travel distance is based on very conservative estimated pathogen survival rates and is calculated using site-specific dilution parameters that include hydraulic conductivity, hydraulic gradient, and aquifer porosity.

IDAPA 58.01.02 [58.01.16], *Water Quality Standards and Wastewater Treatment Requirements*, Section 600.05.b states that "the entity proposing the project must provide reasonable assurance that the soils and site geology will provide the required level of treatment and will not allow movement of pollutants into the underlying ground water."

Section 6.2.2 of the Guidance provides guidelines for aquifer characterization. An inventory of existing wells is described in Section 6.2.2.b of the Guidance and the IDWR reference would include public water systems. Existing wells are sampled by the USGS, IDWR, ISDA and DEQ ground water quality programs. Protocols include purging the well prior to obtaining the sample, which is determined when field parameters stabilize, as suggested in Section 6.4.6. Sites selected for monitoring will be reviewed by DEQ professional technical staff.

Section 6.4.3 of the Guidance discusses criteria to be used for selecting wells to sample including well construction. Also in that Section, if the existing wells and springs do not provide the information necessary to evaluate ground water quality, then monitoring wells will need to be installed. Monitoring wells, like any other wells, are subject to permit and construction conditions administered by IDWR.

Section 6.2.3 of the Guidance describes identification of potential contaminants, land use, and vegetation.

Contingency planning is discussed in Section 6.5.2 of the Guidance.

Section 6.4.1 of the Guidance requests an evaluation of potential changes to water levels caused by the introduction of recharge water by land application.

The term project manager has been changed to be the responsible party.

In Section 6.4.7 of the Guidance, the responsible party is encouraged to consult ASTM Standard Methods for appropriate analytical methods. EPA certified laboratories are suggested. Submission of laboratory results will provide water quality trends that did not reach an alert level in real time, rather than waiting for one year. Continuous changes in water quality may be an indication that operational changes may be needed to avoid degradation

Pesticide scans using immunoassay techniques often provide detection limits lower than EPA approved drinking water methods. The scans may not identify the individual pesticide, however if an organic is detected from a scan, then additional sampling for laboratory analysis maybe requested.

Ground water quality standards are defined in the *Idaho Ground Water Quality Rule*, IDAPA 58.01.11.

http://www.deq.state.id.us/rules/admin_rules.cfm#links

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**Comment 22.** November 29, 2004
Dianne French
202 E. 7th Street
Moscow, ID 83843

- Any water used for recharge should be clean and pure as natural snowmelt from a non-populated, non-industrial area.
- Guidelines need to address emerging contaminants as testing procedures and thresholds are developed.
- Disagree that the Ground Water Quality Rule allows degradation at all.
- Funding must be available for comprehensive monitoring.
- Guidelines must be stringent to prevent jeopardizing our water supplies.

**Response 22.** In IDAPA 58.01.02 [58.01.16], *Water Quality Standards and Wastewater Treatment Requirements,* Section 600.04 a ground water quality monitoring program is subject to DEQ approval. The guidance is to provide an entity (or its consultant) with description and clarification of the information necessary for DEQ, within its authority under the existing rule, to determine if the program offers sufficient protection of ground water quality for the site-specific conditions.

IDWR manages the Idaho Statewide Ambient Ground Water Quality Program, which statistically characterizes Idaho's ground water quality. The program has initiated sampling for emerging contaminants as analytical methods are being developed.

Providing ambient or baseline ground water quality is discussed in Section 6.4.2 of the Guidance. DEQ may request sampling for additional constituents.

http://www.deq.state.id.us/rules/admin_rules.cfm#links

**Comment 23.** November 20, 2004
Bryce Contor
Bcontor@if.uidaho.edu
Thank you for providing the document.

**Response 23.** You are welcome.

**Comment 24.** November 15, 2004; Received December 8, 2004
Marshal Comstock, Mayor, City of Moscow
PO Box 9203
Moscow, ID 83843-1703

- The city was unaware of the opportunity to comment on these guidelines and on the Wastewater Land Application Permit Rules, please consider other strategies for notifying the public and stakeholders.
- Outline how emerging contaminants will be addressed in monitoring programs.
- 1.0: Please provide clarification on using treated wastewater for recharge
- 4.2: Would like assurances the GWQ Rule and Idaho Code will not change in that no contaminants will be allowed for recharge water if there is a potential for degradation, including emerging contaminants
- 5.3: Public notification within either the 2-year time of travel or 300 ft., which ever is greatest
- 5.3: Define potential zone of influence
- 5.3 Public notification for new proposed ground water filtration facilities including addressing emerging contaminants
- 5.6 Reporting schedule suggestions to send routine reports in batch and less frequently—allow submittals to be postmarked by 15th of following month.
- 6.2.1.a Soils that may be imported should be suitable and evaluated for previous use and potential contaminants.
- 6.2.2.b The direction of flow in an aquifer is not always known – the guidance addresses down gradient for locations.
- 6.3 Include potential sources and presence of any emerging contaminants
- 6.4.4 Specify what constitutes a “higher risk.”
- 6.4.6: Include emerging contaminants and new bioassay analytical methods, which may pick up constituents conventional methods

may miss. Add monitoring for seasonal changes and after unusual events, such as flooding.

**Response 24.** DEQ issues a press release announcing all opportunities for public comment, and is provided to all media statewide, including local government associations and organizations. All public comment opportunities are also posted on the DEQ website:

http://www.deq.state.id.us/public/comment.cfm.

IDWR manages the Idaho Statewide Ambient Ground Water Quality Program, which statistically characterizes Idaho's ground water quality. The program has initiated sampling for emerging contaminants as analytical methods are being developed.

Providing ambient or baseline ground water quality is discussed in Section 6.4.2. of the Guidance. DEQ may request sampling for additional constituents.

Public notification has been revised to all include potentially impacted property owners. If the water used for recharge is treated waste water, then the project would be subject to *Wastewater Land Application Permit Rules* (IDAPA 58.01.17). Public notification has been revised to all include potentially impacted property owners.

Characterization of the recharge area is discussed in Section 6.2 and in Section 6.2.2.b. of the Guidance.

The area is considered to include a one-year time of travel distance and should include the nearest receptor. The one-year time of travel distance is based on pathogen survival rates, and is calculated using site-specific dilution parameters that include hydraulic conductivity, hydraulic gradient and aquifer porosity. In IDAPA 58.01.02 [58.01.16]., *Water Quality Standards and Wastewater Treatment Requirements*, Section 600.05.b states that "the entity proposing the project must provide reasonable assurance that the soils and site geology will provide the required level of treatment and will not allow movement of pollutants into the underlying ground water."

In Section 6.2.1 of the Guidance, the use of imported soils may be subject to additional consultation with DEQ.

http://www.deq.state.id.us/rules/admin_rules.cfm#links